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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,316	07/25/2003	Timothy Neill	200208568-1	1916

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FORT COLLINS, CO 80527-2400

EXAMINER
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TRAN, CHUC

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

31

<b>Office Action Summary</b>	Application No. 10/627,316	Applicant(s) NEILL ET AL.	
	Examiner Chuc D. Tran	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.  
 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 and 26-29 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-24 and 26-29 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☒ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-24 and 26-29 have been considered but are moot in view of the new ground(s) of rejection.

### ***Drawings***

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "electrical device" in claims 20-22, 27, and "the component" in claims 20-22, 24 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. Claims 20-22, 24 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 20-22, 24 and 27, the terms “ a system”, “electrical device”, and “the components” lacks proper antecedent in that it renders the claims language vague and indefinite. As is presented, the elements required in making up the referenced components are unknown.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Pirila et al (USP. 6,417,817).

Regarding claim 1, Pirila et al disclose a radio module for an electrical device, comprising:

- a radio transceiver (104) (Fig. 1);
- an antenna (111) electrically coupled to the radio transceiver (Fig. 2); and
- a shield (Col. 1, Line 36) (Fig. 2) disposed relative to the antenna to isolate the antenna from loading effects of components of the electrical device (Col. 1, Line 15).

Regarding claim 2, Pirila et al disclose that the radio module is adapted to be secured to a side of the electrical device (Col. 1, Line 36).

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Regarding claim 3, Pirila et al disclose that a printed circuit board (101), wherein the antenna (111) is disposed on the printed circuit board (Fig. 2).

Regarding claim 4, Pirila et al disclose that the shield comprises a metal plate (101) coupled to the printed circuit board (Fig. 1).

Regarding claim 5, Pirila et al disclose that the shield is disposed relative to the transceiver to isolate the transceiver from electromagnetic interference from electrical components within the electrical device (Col. 1, Line 15) (Fig. 2).

Regarding claim 6, Pirila et al disclose that the radio module further comprises a cover (107) disposed over the antenna and adapted to extend through an opening in the side of the electrical device, the cover comprising a material that is generally transparent to radio signals (Col. 4, Line 1).

Regarding claim 7, Pirila et al disclose that the shield comprises a housing disposed around the antenna (Fig. 2), the housing having a portion generally transparent to radio signals from the antenna (Col. 4, Line 1)

Regarding claim 8, Pirila et al disclose that the housing is disposed around the transceiver (Fig. 2).

Regarding claim 9, Pirila et al disclose that the housing comprises a conductive metal (Col. 4, Line 1).

Regarding claim 10, Pirila et al disclose that the housing comprises a polymeric material having a conductive coating (Col. 4, Line 18).

Regarding claim 11, Pirila et al disclose that the housing comprises a periodic band-gap material (Col. 4, Line 20).

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Regarding claim 12, Pirila et al disclose a radio module, comprising:

- a printed circuit board (101) (Fig. 1); an antenna (111) disposed on the printed circuit board (Fig. 2); and an electromagnetic shield (107) extending from the printed circuit board (101) around the antenna (111) (Fig. 2).

Regarding claim 13, Pirila et al disclose that a radio transceiver (104) disposed on the printed circuit board (101) and electrically coupled to the antenna (111) (Fig. 1).

Regarding claim 14, Pirila et al disclose that the radio module is adapted to be coupled to an enclosure (Fig. 1) and, wherein, the electromagnetic shield is adapted to extend from the printed circuit board to the enclosure (Fig. 2).

Regarding claim 15, Pirila et al disclose that the shield comprises a portion generally transparent to radio signals produced by the radio module, the portion being disposed in facing relationship with the antenna (Fig. 1).

Regarding claim 16, Pirila et al disclose that the antenna is disposed within the enclosure (Fig. 1).

Regarding claim 17, Pirila et al disclose that a cover (107) disposed over the antenna, the cover being generally transparent to radio signals at the operating frequency of the radio module (Col. 1, Line 52).

Regarding claim 18, Pirila et al disclose that a metal plate (108) disposed on the printed circuit board (101) (Fig. 1).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

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subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 20-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Mendolia et al (USP. 6,867,746).

Regarding claim 20, Mendolia et al disclose a system, comprising:

- a plurality of electrical devices (Col. 1, Line 20); and
- a plurality of radio modules disposed within the plurality of electrical devices to enable the plurality of electrical devices to communicate wirelessly (Col. 1, Line 20), wherein each of the plurality of radio modules comprises an antenna (810) (Fig. 8) disposed within the electrical device and adapted to provide a maximum output at a defined load (Col. 5, Line 19), and a member (806) disposed relative to the antenna 810) (Fig. 8) to establish the defined load an the antenna independent of components disposed within the electrical device in which the antenna is disposed (Col. 8, Line 59).

Regarding claim 21, Mendolia et al disclose that at least one member (222)decouples the antenna electromagnetically from the components within the electrical device in which the antenna is disposed (Fig. 2) (Col. 4, Line 15).

Regarding claim 22, Mendolia et al disclose that at least one member comprises a conductive metal plate (224)disposed between the antenna and the components within the electrical device in which the antenna is disposed (Fig. 2).

Regarding claim 23, Mendolia et al disclose that at least one radio module comprises a radio transceiver (294) coupled to the antenna (212) (Fig. 2).

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Regarding claim 24, Mendolia et al disclose that at least one member (206) is disposed around the radio transceiver (204) (Fig. 2).

Regarding claim 26, Mendolia et al disclose that at least one antenna (212) is disposed on a printed circuit board (202) securable to an enclosure (Fig. 2).

Regarding claim 27, Mendolia et al disclose a method of manufacturing a radio module for use within an electrical device, comprising:

- tuning an antenna to produce a maximum output at a defined load (Col. 7, Line 23); and
- disposing a shield (806) relative to the antenna (810) to establish the defined load (Col. 8, Line 59) on the antenna independent of influences external to the antenna within the electrical device (Col. 1, Line 20) (Fig. 8).

Regarding claim 28, Mendolia et al disclose that disposing a shield comprises disposing an antenna housing around the perimeter of the antenna (Fig. 8).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pirila et al (USP. 6,417,817).

Regarding claims 19 and 29, Pirila et al disclose a radio module for an electrical device (Fig. 1) including a conductive metal plate (108) disposed on the printed circuit board (101) (Fig. 1). However, Pirila et al is silent on the limitation of the conductive metal plate disposed on the



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side of the printed circuit board opposite the antenna. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Pirila et al by switching the metal plate to the other side of the printed circuit board. The ordinary artisan would have been motivated to modify Pirila et al in the manner described above for shielding the components against electromagnetic interference from the external sources See (Col. 1, Line 15).

*Citation of relevant Prior Art*

Prior art Wilz (USP. 6,204,825) disclose hybrid printed circuit board shield antenna.

Prior art Rinot (USP. 6,356,773) disclose radiation shielding device.

*Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

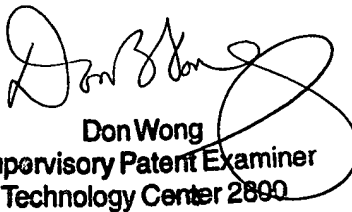
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May 24, 2005

  
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